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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/809,364
Filing Date: March 26, 2004
Appellant(s): EGAWA, KIYOAKI

David Emery
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 4/13/09 appealing from the Office action mailed 8/12/08.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is incorrect. A correct statement of the status of the claims is as follows:

This appeal involves claims 1-5 and 8-17 which are rejected.

Claims 1-5 and 8-17 are objected for grammar in the independent claims 1, 16, and 17.

Claims 6 & 7 have been canceled.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

JP2002-205167	Takeshi	01-2002
4,655,662	Yoshieda et al.	04-1987
JP 03-147564	Ono (Iizuka)	06-1991

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims, the objections are listed for completeness:

Claim Objections

Claims 1-5,8-17 objected to because of the following informalities: Claims 1,16,17 seem to have a number agreement issue between “parts” and “opens” in the second to last line. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3,11-17, are rejected under 35 U.S.C. 103(a) as obvious over Takeshi (2002-025167) in view of Yoshieda (US 4,655,662).

Re claim 1,16,17, Takeshi teaches an apparatus for transporting a storage medium (generally 9) from a holder (generally 20) to a storage device (generally D), said apparatus comprising:

a base (generally 4);

a carriage (generally 30,5) driven by first driving force, said carriage being movable relative to said base (generally 4) between said holder (generally 20) and said storage device (generally D);

a picker (31,34,etc.) provided on said carriage (generally 30) and driven by second driving force, said picker selectively loading and unloading said storage medium (generally 9);

a first driving device (generally 52,etc.) generating said first driving force;

a second driving device (generally 51A,etc.) provided on said base and generating said second driving force; and

a transmission mechanism (generally 51A,51a,etc.) transmitting said second driving force from said second driving device to said picker allowing movement of said carriage;

wherein said picker has a gripper (generally 34,39) which includes first and second parts (various, 34,39) which are linked to each other rotatably (generally 33,38 rotates and is the center part of the link between 34-34, 39-39) around an axis (generally the rotation axis of 33,38 or any other rotary connection axis therebetween);

wherein said carriage has cams or some mechanism which makes said gripper open or close in response to the movement of said picker (gripper opens and closes to grab and release the storage medium 9 only at the location of the medium, since the gripper only gets to that spot by movement of the picker and its associated cams/mechanism 33,38,etc., then it is taught that the gripper opens and closes in response to the picker's movement and the cams/ mechanism associated with that movement).

Takeshi does not explicitly state that cams open and close but already teaches conversion of rotary to linear movement elsewhere (such as the vertical movement and picker movement) which is the essence of what cams are. Yoshieda teaches a carriage having cams (generally 43,38) and a picker (generally 15) with a gripper (generally 17) which includes first and second parts which are linked to each other rotatably around an axis, wherein the gripper opens and closes in response to movement of the picker (generally 15) in order to reduce weight and power consumption (as opposed to a power actuated gripper). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have tried modifying Takeshi by the general teaching of Yoshieda to have the carriage cams and a picker with a gripper which includes first and second parts which are linked to each other rotatably, wherein the gripper opens and closes in response to movement of the picker in order to achieve the predictable result of reducing weight and power consumption and to have gripping mechanism similar in style to power transmission mechanisms of the rest of the device. Thus as modified Takeshi teaches said first parts move pivotally about said axis and open for hooking notches of the storage medium by said cams.

Re claim 2, Takeshi teaches said transmission mechanism comprises a rotary shaft (51A,etc.) and a coupling device (51a,51b,etc.), and said coupling device is provided on said carriage and transmits torque from said rotary shaft to said picker allowing relative movement between said rotary shaft and said picker along a longitudinal axis of said rotary shaft.

Re claim 3, Takeshi teaches said rotary shaft (51A,etc.) has a convex portion in cross section, said coupling device (51a,51b,etc.) has a concave portion in cross section, and said convex portion of said rotary shaft fits said concave portion of said coupling device.

Re claim 11, Takeshi teaches said picker comprises a gripper assembly (31,34,etc.) grasping said storage medium 9.

Re claim 12, Takeshi teaches said picker comprises a support structure (31,32,etc.) translating said gripper assembly in a direction toward and away from said holder.

Re claim 13, Takeshi teaches said gripper assembly comprises an arm 34 and a guide 33 guiding said arm, said arm selectively assumes an open position and a closed position, said guide 33 has a curved portion such that said arm moves from said closed position to said open position as said arm approaches said holder and said arm moves from said open position to said closed position as said arm retreats from said holder.

Re claim 14, Takeshi teaches said holder is a library.

Re claim 15, Takeshi teaches said storage medium is housed in a cartridge (generally 9).

Claims 4,5,8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeshi (2002-025167) in view of Yoshieda (US 4,655,662) and Ono (also known as Iizuka) (JP 03-147564).

Re claims 4,5, Takeshi is silent regarding the rotary shaft having a polygonal/rectangular shape in cross section. Ono teaches that it is known to have the rotary shaft (generally 30,40) having a polygonal/rectangular shape in cross section. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have tried modifying Takeshi by the general teaching of Ono to have the rotary shaft having a polygonal/rectangular shape in cross section as an equivalent alternative in order to achieve the predictable result of making it easier to grip with a wrench and less likely to have undesired slippage in its couplings.

Re claim 8, Takeshi is teaches the transmission mechanism comprising a gear but is silent regarding a belt. Ono teaches that it is known to have the transmission mechanism (figures 1,3) comprising a gear and (elastic) belt. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have tried modifying Takeshi by the general teaching of Ono to have the transmission mechanism a gear and belt in order to achieve the predictable result of saving weight relative use of all gear or gear and screw assemblies.

Re claim 9, Takeshi as already modified by Ono teaches said belt being elastic.

Re claim 10, Takeshi as already modified by Ono teaches said belt comprising a spring (the elastic belt itself can be considered a spring and also there are springs 38,44,etc. with the belts.)

(10) Response to Argument

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant argues primarily that Takeshi (JP 2002-025167) does not teach cams causing gripping of and picking via a cam structure. Yoshieda actually teaches this. As far as Takeshi goes, this reference does move via cams to the storage medium and has pickers 34 or 39 that grip the medium in some way. Its is not stated in Takeshi how this gripping or picking happens though its likely from the state of the art the gripper/pickers just deflect about the front of the storage medium then spring back into the grab recesses 92 to pull and likewise deflect back out when the medium is placed and held at its destination. This is caused by the already mentioned cam movements above but Yoshieda the reference used to make the cam grab action more apparent and show that this cam gripper movement is clearly known the prior art.

Yoshieda teaches a number of cams (generally 38 (36),43,etc) that move the picker (generally 15) and spring loaded grippers (generally 17) to close and grab items at a

given location as a result of the cam movement. This is clearly shown in figures 1,3, and 5 for example and likewise the combination with Takeshi would be clear to one of ordinary skill as Takeshi already is known to use cams, at the very least for other movements, and to grip by opening and closing of the gripper and the Yoshieda teaches opening and closing of a gripper by way of a cam.

Applicant does not further argue the rejections further rejected by Ono (claims 4,5,8-10) and so they rise or fall with the above rejections.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Michael Scott Lowe/

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